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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,983	03/26/2004	Yar-Ming Wang	GP-304670	9619
7590 Kathryn A. Marra General Motors Corporation Mail Code 482-C23-B21 PO Box 300 Detroit, MI 48265-3000		10/29/2008	EXAMINER MAYEKAR, KISHOR	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 10/29/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/810,983

**Applicant(s)**

WANG ET AL.

**Examiner**

Kishor Mayekar

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 September 2008 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 2, 4 and 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zaki ("Electrocleaning", 2000, Vo. 98, Issue 1, Pages 134-139) in view of either Bruno et al. (US 4,495,008) or Cooke et al. (US 4,169,770), and in view of Polan et al. (US 4,568,431). Zaki's article, a reference cited by Applicant, discloses in an abstract an electrocleaning being a cleaning process used in metal surface preparation, usually in preplate cycles". There, Zaki also discloses that "[t]he basis function of electrocleaners

is to remove soils from the surface that could not be removed by simple immersion soak and degreasing steps", where the soils including finely divided particles, such as metallic fines (generally referred to as smut). Zaki also discloses in the article the electrolysis of electrocleaners where hydrogen is liberated at the cathode, the types of electrocleaners, and process considerations. The differences between Zaki and the above claims are the starting metal surface and the transporting step.

As to the first difference, Bruno teaches in a process of making long-life metal plate for automobile bodies that the metal plate surface is subjected to an electrolytic cleaning prior to a preplate (Example 1 and results of data presented in Table 1). Cooke teaches in a process for electroplating aluminum articles the steps of electrolytic cleaning the articles prior to a preplate, where the aluminum articles as part of vehicles (abstract and c. 1, l. 8-26). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Zaki's teachings as shown by either Bruno or Cooke because the selection of any starting metal surfaces for the electrocleaning would have been within the level of ordinary skill in the art.

As to the second difference, Polan, a reference cited in previous Office action, teaches in a process for producing electroplated metal foil, the steps of electrolytic cleaning the metal foil prior to the electroplating (c. 5, l. 3-68), the provision of a surface impurity removing means including a skimmer floating on the surface of a treating solution

(c. 2, l. 39-55), and the continuous withdrawal of solution from tank 14 (Fig. 2). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Zaki's teachings as shown by Polan because this would result in removing surface impurities and contaminants from a treatment tank.

As to the subject matter of each of claims 16 and 18, Cooke teaches in c. 9, l. 52-61 that the electrocleaner contains sodium carbonate or trisodium phosphate. as such the selection of any of known equivalent electrocleaners would have been within the level of ordinary skill in the art.

As to the subject matter of claims 19 and 20, Polan teaches the recited current density.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zaki in view of either Bruno '008 or Cooke '770 and in view of Polan '431 as applied to claims 1, 2, 4 and 6-20 above, and further in view of Lauke (US 4,568,438). Polan as applied above further discloses in col. 9, line 56 through col. 10, line 54 the continuous withdrawal of the solution to remove the surface impurities or contaminants from the treatment tank 14. The difference between the references as applied above and the instant is the provision of the recited eductor. Lauke, another reference cited in previous Office action, teaches in a method for making an electroimmersion finish the limitation (Figs. 1 and 2). The subject

matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the references' teachings as shown by Lauke because the selection of any of known recirculation of the solution with contaminant removal would have been within the level of ordinary skill in the art.

#### *Response to Arguments*

5. Applicant's arguments filed 14 August 2008 have been fully considered but they are not persuasive because of the new ground of rejections as set forth in the paragraphs above.

#### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Mayekar/  
Primary Examiner, Art Unit 1795